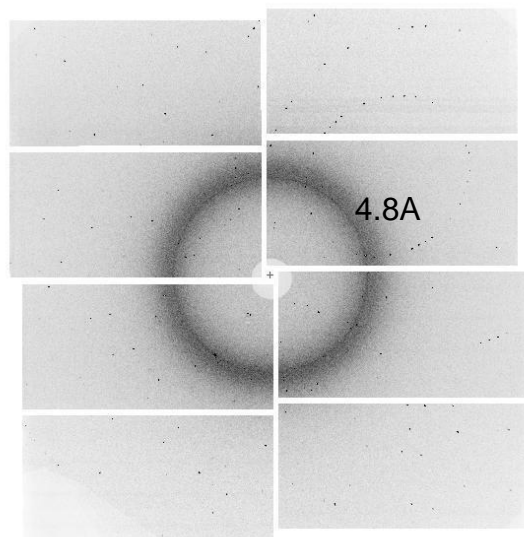


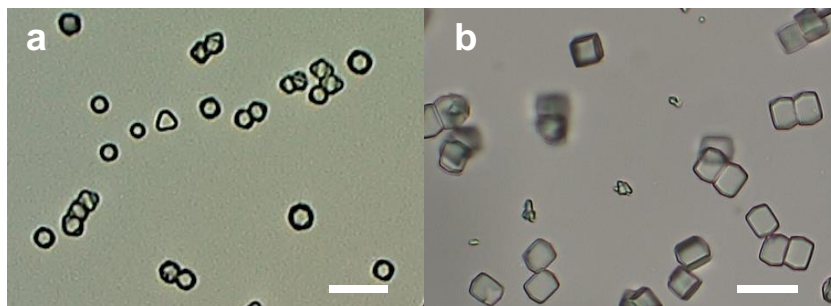
Oil-free hyaluronic acid matrix for serial femtosecond crystallography

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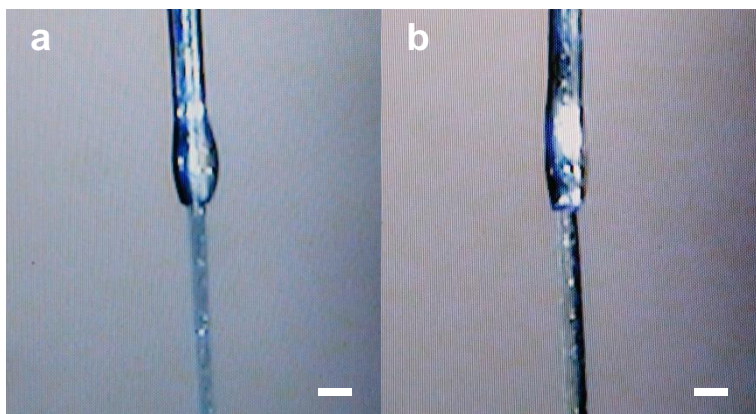
Supplementary Figures



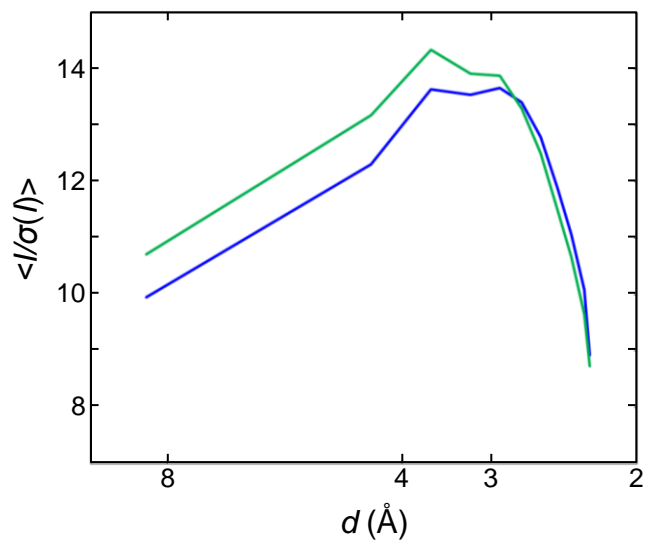
Supplementary Figure 1: A single diffraction pattern from Super Lube grease. Super Lube grease tended to give a diffraction ring pattern at $\sim 4.8\text{-}\text{\AA}$ resolution in $\sim 30\%$ of all diffraction images.



Supplementary Figure 2: Protein microcrystals used for SFX measurements. (a) Proteinase K, and (b) lysozyme crystals. Scale bars represent 20 μm .



Supplementary Figure 3: Sample extrusion of the two crystal carriers through a 110- μm -i.d. needle at a flow rate of 0.48 $\mu\text{l}/\text{min}$. (a) Super Lube grease, and (b) hyaluronic acid were extruded as a continuous column to intersect with the XFEL beam. Scale bars represent 210 μm .



Supplementary Figure 4: Statistics of $I/\sigma(I)$ for proteinase K protein. Two data sets of the grease and hyaluronic acid matrices are colored in blue and green, respectively.